

New Species of the Genus *Amblyopinus* Solsky
from Panama and Mexico
(Coleoptera: Staphylinidae)

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This paper includes descriptions of *Amblyopinus tiptoni* n. sp. from Northern Panama, *A. isabelae* n. sp. from Southern Mexico, and records of *A. emarginatus* Seevers, 1954, from Northern Panama. These species are interesting additions to the primitive "Andean" elements of the highlands of Southern Mexico and Central America. All were found in association with cricetine rodents, like the two closely allied species previously described from that area, namely, *A. schmidti* Seevers, 1944, and *A. bolivari* Barrera, Machado and Muñiz, 1960.

The single male of *A. isabelae* n. sp. which represents the second species known from Mexico, was collected some years ago by Professor Dionisio Pelaez and myself at Omiltemi, Guerrero, Mexico (Barrera, 1958). I am very much indebted to Dr. Candido Bolivar for the gift of this specimen which had previously been deposited in his laboratory at the Escuela Nacional de Ciencias Biológicas, México, D.F.

The Panamanian species constitute the first records of the genus for that country. The description of *A. tiptoni* n. sp. is based on a large number of specimens collected in Chiriquí Province near the Costa Rican border. I am very grateful to Lt. Col. Vernon J. Tipton, formerly Chief, Environmental Health Branch, Preventive Medicine Division, United States Army Caribbean, Canal Zone, for making the Panamanian collection available to me.

It is difficult to even attempt to assess my debt to Mr. Carlos Machado, Biologist, now at the Departamento de Zoología, Secretaria da Agricultura, São Paulo, Brazil. Mr. Machado has been extremely kind in devoting his valuable time to checking specimens for me. His criticism about the designation of abdominal sterna is greatly appreciated.

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The abdomen of *Amblyopinus* is of the haplogastrous type with a complete second sternum; thus, the first externally visible sternum is actually the second. When Barrera *et al.* (1960) described *A. bolivari*, they named the abdominal sterna following a simple ordinal criterion. However, in this paper, descriptions are made using the terminology of morphologists. The first externally visible abdominal sternum is designated as the second, and so forth.

Seevers (1955) says that "considerable reliance must be placed on the aedeagus and the terminal segments of the male abdomen for distinguishing closely allied species." I agree entirely with his point of view. Some members of the *jelskii* group are not easily recognizable without a careful examination of the apex of the aedeagus. For this reason, the genital armatures were dissected with fine needles, then mounted in Canadian balsam and drawn with the aid of a camera lucida.

I prepared the illustrations of the aedeagus. All other drawings were made by Maria A. Vulcano, of the above-mentioned Departamento de Zoología, to whom I am very much indebted for her kind cooperation.

***Amblyopinus tiptoni*, new species.** Figures 31A, B; 32.

Near *A. bolivari* (figs. 31E, F; 33B) but readily separated as follows: eyes visible from above; mentum with two very small marginal bristles on each side; metasternal process with more than six bristles on the anterior surface; eighth sternum of male with one or two bristles. Ventral margin of apex of aedeagus (fig. 31A) forming a well sclerotized lobe followed proximally by a wide sinus. Marginal row of spiniform microsetae extending from behind the fourth to the first submarginal apical bristles of the aedeagus.

DESCRIPTION, MALE: Head.—Clypeal margin straight, with one very short, blunt seta on each frontolateral angle. Labrum bilobed; each lobe with two very long thin submarginal setae on the internal side. Lateral margins divergent, convergent behind the eyes. Lateral lobes separated from the posterolateral or occipital lobes by a relatively wide sinus. Seven eye facets visible from above, just in front of the supraocular bristle. Occipital region with two very well-developed lateral setae, these longer than the post-antennal bristles. Mentum with two very small marginal bristles on each side.

Thorax.—Prosternum with two large median bristles. Mesosternum with about 25 bristles arranged as in fig. 31B. Characteristically six small bristles of the 25 are arranged in two apical rows. In *A. isabelae* n. sp. there are three large apical bristles (fig. 31D). Metasternum as in *A. isabelae* n. sp.

Abdomen and genitalia.—Caudal margin of terga I to VI with a long, pigmented lateral bristle. Margin of tergum VII almost rounded. Tergum VIII relatively slender, with a fringe of thin long setae along the caudal margin. Margin of sternum VI with three conspicuously long, pigmented bristles on each side. Sternum VII bilobed, with two large bristles on the left lobe and four on the right. Apex of sternum VIII entire, rounded, with many slender marginal setae (fig. 32A, VIII). Urostyli with many thin setae on the anterior half of the external margin, and with the large bristles arranged as in fig. 32A.

Dorsal apodeme of aedeagus relatively wide, with numerous spiniform microsetae well-developed from near the apex, behind fourth submarginal to the first submarginal bristle. A wide ventral sinus forms a conspicuous isthmus between apex and the anterior part of the aedeagal apodeme. Apical sclerite of internal tube of aedeagus long, slender, dorsally convex, the caudal apex flat, constricted, the proximal end rounded (fig. 31A).

FEMALE: *Abdomen and genitalia*.—Caudal margin of sternum VI with two large pigmented bristles on the right side, three on the left. Same condition is found in sternum VII, the bristles arranged as in fig. 32B, VII. Apex of urostyli with four long bristles. Two very long bristles on the apex of styliform appendages of segment VIII arranged as in fig. 32B.

TYPE MATERIAL: Holotype male from *Peromyscus nudipes nudipes* (host no. 5967), Bambito (Chiriquí), 5800 feet elevation, collected 9 February 1960 by V. J. Tipton. In the collection of Chicago Natural History Museum.

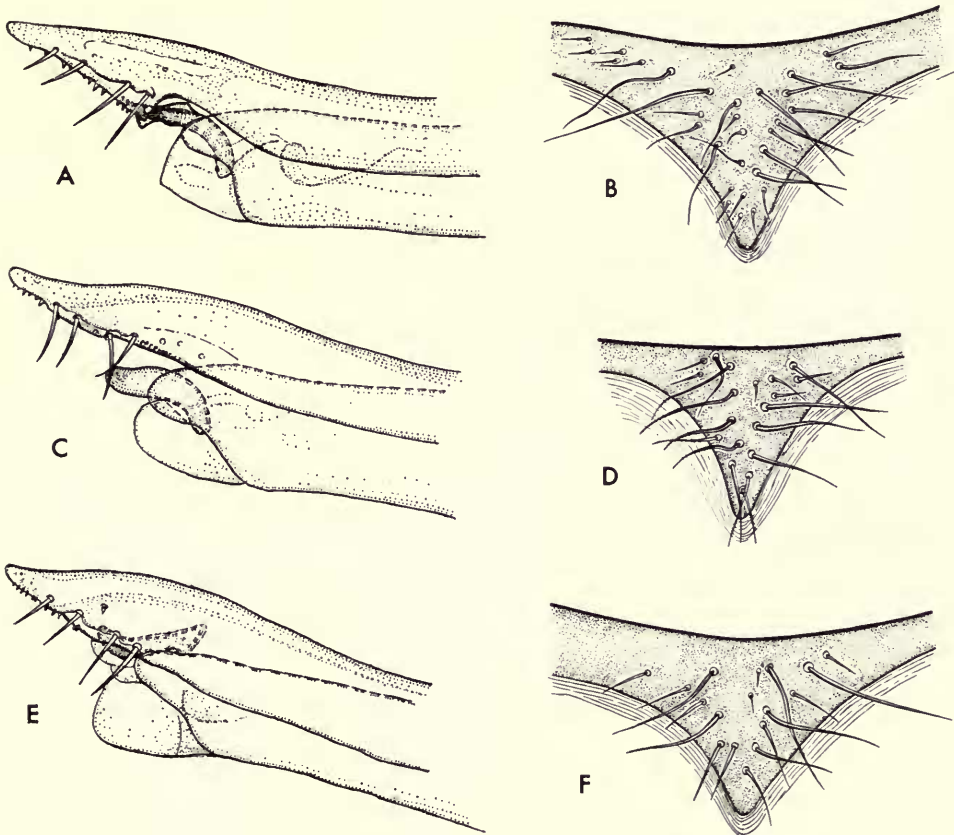


Fig. 31. Apex of aedeagus (A,C,E) and mesosternal plate (B,D,F) of male. A,B, *Amblyopinus tiptoni* n. sp. C,D, *Amblyopinus isabelae* n. sp. E,F, *Amblyopinus bolivari* Barrera, Machado, and Muñiz.

Allotype female, same host and repository as the holotype, from Lava Flow (Chiriquí), 5000 feet elevation, collected 5 February 1960 by V. J. Tipton. The following paratypes, collected by V. J. Tipton and C. M. Keenan, are all from *Peromyscus n. nudipes*, with the one exception indicated.

A male from Finca Martinz (Chiriquí), 6800 feet elevation, 13 February 1960 (host no. 6004). In the collection of the Escuela de Biología of the Universidad Central de Venezuela, Caracas, Venezuela.

Several males and females from Lava Flow and Finca Martinz, 7 January 1961 (host nos. 6813, 6815, 6820, 6827, 6836). In the collection of the Laboratorio de Entomología Económica y Experimental, Escuela Nacional de Ciencias Biológicas, I.P.N., México. Also deposited here is the unique material collected from *Reithrodontomys creper* (host no. 6309), Cerro Barú, 10500 feet elevation, 2 May 1960.

A male and female (host nos. 6844, 6875) both from Lava Flow, 5000 feet elevation, 8 and 9 January 1961, respectively. In the collection of the Departamento de Zoología, Secretaría da Agricultura, São Paulo, Brazil.

From Lava Flow a long series, 27–29 January, 7–9 February, 1960 (host nos. 5794, 5806, 5807, 5935, 5936, 5965) and several males and females, 27 January 1960 and 5 February 1960 (host nos. 5781 and 5906). In the collection of V. J. Tipton.

A long series from: Finca Martinz, 30 January 1960 (host no. 5827), 1 February 1960 (host no. 5847), 14 February 1960 (host nos. 6012 and 6022); and Casa Lewis (Chiriquí), 5700 feet elevation, 31 January 1960 (host no. 5838). In the collection of Gorgas Memorial Laboratory.

This species is named for Lt. Col. Vernon J. Tipton, who has contributed much to the study of ectoparasites of the mammals of Panama.

It is important to note that the modified abdominal segments of many paratypes of *A. tiptoni* n. sp. have been separately mounted. These specimens were dissected for examination of gastro-intestinal contents. Dissection was always carefully made to avoid damage of important sclerotized parts used for descriptive purposes.

Amblyopinus emarginatus Seevers

Amblyopinus emarginatus Seevers, 1955, *Fieldiana, Zoology*, 37: 239, figs. 37m, 38f.

I have examined three specimens of this species from Rancho Mojica (Bocas del Toro), elevation 5000 feet, from *Peromyscus flavidus* (host no. 8042), 10 September 1961, and from *Oryzomys albigularis* (host no. 8098), 12 September 1961, collected by V. J. Tipton and C. M. Keenan. The type specimens are from Huila, Colombia, from *Thomasomys laniger*. The species probably also occurs in Venezuela.

Amblyopinus isabelae, new species. Figures 31C, D; 33A.

Near *A. bolivari* (figs. 31E, F; 33B) but readily separated as follows: eyes visible from above; mentum without marginal bristles; metasternal process with more than six bristles on the anterior surface; eighth sternum of male with two or three bristles. Ventral margin of apex of aedeagus (fig. 31C) with a sclerotized flat extension between fourth and second submarginal apical bristles; marginal row of spiniform microsetae well developed only from behind the fourth submarginal bristle toward the apex.

DESCRIPTION, MALE: *Head*.—Clypeal margin nearly straight, with one very short and blunt seta on each frontolateral angle. Labrum bilobed; each lobe with three setae on the external side and three on the internal side of the margin. Lateral margins very divergent, but convergent behind the eyes, forming conspicuous lateral lobes separated from the posterolateral or occipital lobes by a short sinus. Five or six eye facets are visible from above just in front of the supraocular bristle. Occipital region with two

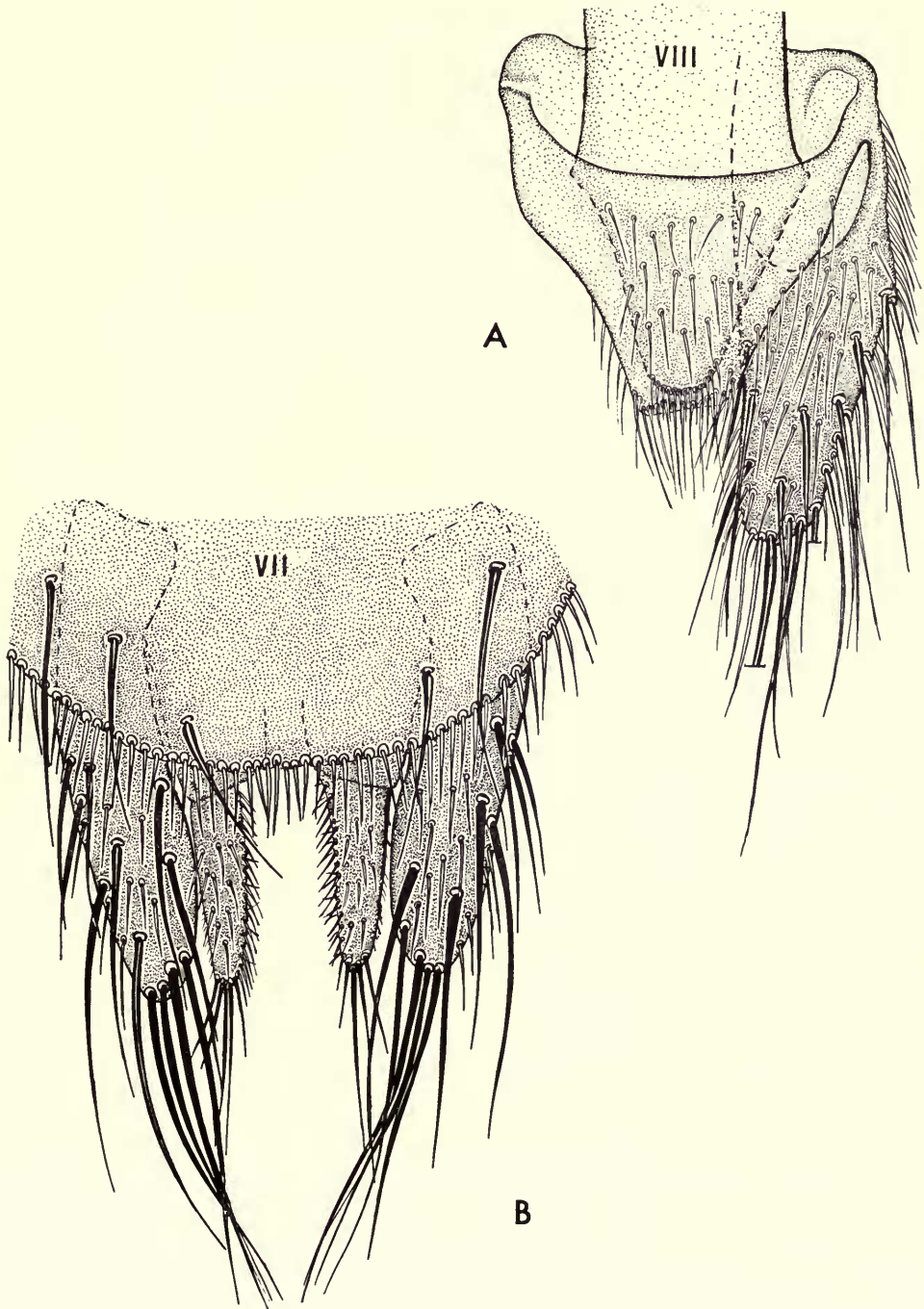


Fig. 32. *Amblyopinus tiptoni* n. sp., modified abdominal segments. A, eighth sternum (VIII), male. B, seventh sternum (VII), female.

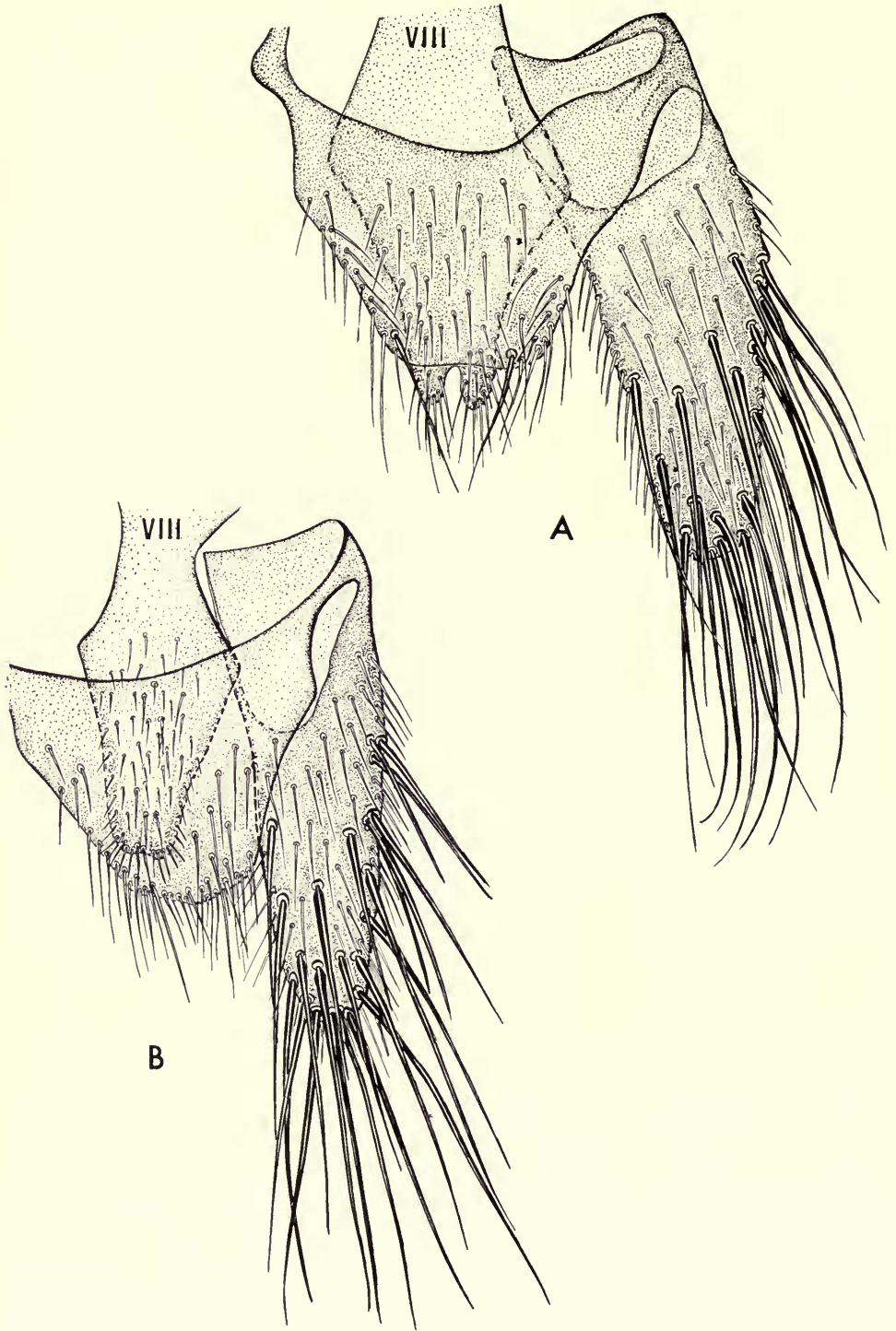


Fig. 33. Modified abdominal segments, male. A, *Amblyopinus isabelae* n. sp. B, *Amblyopinus bolivari* Barrera, Machado and Muniz.

abortive lateral setae, very much shorter than the postantennal ones. Mentum without marginal bristles.

Thorax.—Prosternum with two large median bristles. Mesosternum (fig. 31D) with about 14 large bristles arranged in two irregular longitudinal rows. Metasternum clothed with several relatively small bristles arranged in eight irregular rows; apex of metasternal process emarginate, nearly pentagonal.

Abdomen and genitalia.—Caudal margin of terga I to VI with a long pigmented lateral bristle. Margin of tergum VII evenly rounded. Tergum VIII trapezoidal, with several long, slender marginal bristles; near the posterolateral angles one of these bristles is longer and more pigmented than the others. Margin of sternum V with one long pigmented bristle on each side. Margin of sternum VI with two long pigmented bristles each side. Sternum VII bilobed, with two large submarginal bristles on the left lobe and three on the right. Sternum VIII rhomboidal, but with the apex bilobed (fig. 33A).

Urostyli with very few setae on the anterior half of the external margin and with the large bristles arranged as in fig. 33A. Dorsal apodeme of the aedeagus (fig. 31C) relatively slender, with spiniform microsetae well developed only at apex, behind fourth submarginal bristle. One spiniform microseta under each submarginal bristle. A flat extension runs between the second and fourth submarginal bristles. Lateral lobes wide, rounded. Apical sclerite of internal tube of aedeagus dorsally convex, smooth, with both proximal and distal ends rounded. Female unknown.

TYPE MATERIAL: Holotype a male from Omiltemi, State of Guerrero, Mexico; collected 29 December 1954 by A. Barrera and D. Pelaez. In the collection of the Laboratorio de Entomología Económica y Experimental, Escuela Nacional de Ciencias Biológicas, I.P.N., México, D.F.

REMARKS: This species is named for my wife, the entomologist Isabel Bassols de Barrera, who has often helped me in collecting rodents and ectoparasites. Other ectoparasites collected at Omiltemi were described by Barrera (1958) in a previous paper.

There is considerable agreement that the *Amblyopinini* are obligate ectoparasites. However, neither the literature nor field notes contain conclusive reports on their feeding habits. Although Zikan (1939) concluded that *Amblyopinus henseli* Kolbe is a blood-sucking parasite, he offered no positive evidence.

By means of the benzidine test for occult blood, I obtained a strong positive reaction for blood in some specimens of the large series of *Amblyopinus tiptoni* n. sp. I have come to the conclusion that, as far as the species tested is concerned, *Amblyopinus* do parasitize their hosts primarily for food. Normally, however, they feed on skin exudates or on other products that do not contain haemoglobin, although they may occasionally draw peripheral blood when embedding their mandibles deeply into the skin as they usually do.

A forthcoming paper will specifically report the results of the examination of gastro-intestinal contents of this and other *Amblyopinus*.

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